desirable to use gas injection in combination with baffles **88** or another direct-contact agitation device. In still other instances, it may be desirable to use a combination of gas injection and liquid injection or a combination of gas injection, liquid injection, and direct-contact agitation devices. In even other instances, it may be desirable to use liquid injection with or without direct-contact mechanical agitation devices.

Once food products **32** have completed their journey through the blancher **20**, they are discharged from the outlet **62**. After that, the food products **32** can be packaged and shipped, packaged and frozen, stored, or further processed.

It is also to be understood that, although the foregoing description and drawings describe and illustrate in detail one or more embodiments of the present invention, to those skilled in the art to which the present invention relates, the present disclosure will suggest many modifications and constructions as well as widely differing embodiments and applications without thereby departing from the spirit and scope of the invention. The present invention, therefore, is intended to be limited only by the scope of the appended claims.

What is claimed is:

1. A method of heating a food product comprising:

a) providing a blancher including a food product-receiving chamber disposed in a housing that has a food product inlet and a food product outlet, a rotary food product transport mechanism disposed in the food product receiving chamber for urging the food product toward the food product outlet, and a plurality of pairs of orifices each for introducing a fluid into the housing;

b) introducing food product into a heat transfer medium within the housing of the blancher through the inlet;

c) discharging a fluid through at least one of the plurality of pairs of orifices into the heat transfer medium;

d) heating the food product in the food product-receiving chamber;

e) urging the food product in the food product-receiving chamber toward the outlet; and

f) removing the food product from the food product-receiving chamber through the outlet.

2. The method of claim **1** wherein in step c) the fluid is a liquid that is discharged through at least one of the orifices at a flow rate of at least 20 gpm and a pressure of at least 30 psi.

3. The method of claim **2** wherein there is provided at least one bank of orifices comprised of a plurality of orifices, the blancher has a length, and in step c) the liquid is discharged from the bank of orifices at a flow rate of at least 60 gpm per foot of length of the blancher.

4. The method of claim **3** wherein the heat transfer medium comprises a liquid and further comprising the additional step of withdrawing liquid heat transfer medium from the blancher and discharging the withdrawn liquid heat transfer medium in step c).

5. The method of claim **1** wherein in step c) the fluid is a liquid discharged through at least one of the orifices at a flow rate of at least 20 gpm and a pressure of at least 80 psi.

6. The method of claim **5** wherein there is provided at least one bank of orifices comprised of a plurality of orifices, the blancher has a length, and in step c) the liquid is discharged from the bank of orifices at a flow rate of at least 60 gpm per foot of length of the blancher.

7. The method of claim **6** wherein the heat transfer medium comprises a liquid and further comprising the additional step of withdrawing liquid heat transfer medium from the blancher and discharging the withdrawn liquid heat transfer medium in step c).

8. The method of claim **1** wherein in step c) the fluid comprises a gas discharged through at least one of the orifices at a flow rate of at least 60 CFM and a pressure of at least 2 psi.

9. The method of claim **8** wherein there is a gaseous atmosphere in the blancher and further comprising the additional step of withdrawing a portion of the gaseous atmosphere from the blancher and discharging the withdrawn portion of the gaseous atmosphere in step c).

10. The method of claim **9** wherein the heat transfer medium comprises water and the gaseous atmosphere in the blancher includes water vapor.

11. The method of claim **8** wherein there is provided at least one bank of orifices comprised of a plurality of orifices, the blancher has a length, and in step c) the gas is discharged from the bank of orifices at a flow rate of at least 100 CFM per foot of length of the blancher.

12. The method of claim **8** wherein there is provided at least one bank of orifices comprised of a plurality of orifices, the blancher has a length, and in step c) the gas is discharged from the bank of orifices at a flow rate of at least 200 CFM per foot of length of the blancher.

13. The method of claim **1** wherein in step c) the fluid comprises a gas discharged through at least one of the orifices at a flow rate of at least 10 CFM and a pressure of at least 60 psi.

14. The method of claim **13** wherein there is a gaseous atmosphere in the blancher and further comprising the additional step of withdrawing a portion of the gaseous atmosphere from the blancher and discharging the withdrawn portion of the gaseous atmosphere in step c).

15. The method of claim **14** wherein the heat transfer medium comprises water and the gaseous atmosphere in the blancher includes water vapor.

16. The method of claim **13** wherein there is provided at least one bank of orifices comprised of a plurality of orifices, the blancher has a length, and in step c) the gas is discharged from the bank of orifices at a flow rate of at least 10 CFM per foot of length of the blancher.

17. The method of claim **1** wherein the food products have a density of at least 55 lb/ft^3 and in step c) there is at least one orifice through which water is discharged at a flow rate of at least 20 gpm and a pressure of at least 30 psi and there is at least one orifice through which air is discharged at a flow rate of at least 60 SCFM and a pressure of at least 2 psi.

18. The method of claim **17** wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

19. The method of claim **17** wherein at least eight thousand pounds of food product per hour is removed in step f).

20. The method of claim **1** wherein the food products have a density of at least 55 lb/ft^3 and in step c) there is at least one orifice through which water is discharged at a flow rate of at least 20 gpm and a pressure of at least 30 psi and there is at least one orifice through which air is discharged at a flow rate of at least 10 SCFM and a pressure of at least 80 psi.

21. The method of claim **20** wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

22. The method of claim **20** wherein at least eight thousand pounds of food product per hour is removed in step f).

23. The method of claim **1** wherein the blancher has a length, the food products have a density of at least 55 lb/ft^3,

and in step c) there is at least one orifice through which water is discharged at a flow rate of at least 80 gpm per foot of blancher length and a pressure of at least 30 psi and there is at least one orifice through which air is discharged at a flow rate of at least 10 SCFM per foot of blancher length and a pressure of at least 80 psi.

24. The method of claim **23** wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

25. The method of claim **23** wherein at least eight thousand pounds of food product per hour is removed in step f).

26. The method of claim **1** wherein the blancher has a length, the food products have a density of at least 55 lb/ft^3, and in step c) there is at least one orifice through which water is discharged at a flow rate of at least 80 gpm per foot of blancher length and a pressure of at least 30 psi and there is at least one orifice through which air is discharged at a flow rate of at least 60 SCFM per foot of blancher length and a pressure of at least 2 psi.

27. The method of claim **26** wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

28. The method of claim **26** wherein at least eight thousand pounds of food product per hour is removed in step f).

29. The method of claim **1** wherein the blancher has a length, the food products have a density of at least 55 lb/ft^3, and in step c) there is at least one orifice through which water is discharged at a flow rate of at least 20 gpm per foot of blancher length and a pressure of at least 80 psi and there is at least one orifice through which air is discharged at a flow rate of at least 10 SCFM per foot of blancher length and a pressure of at least 80 psi.

30. The method of claim **29** wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

31. The method of claim **29** wherein at least eight thousand pounds of food product per hour is removed in step f).

32. The method of claim **1** wherein the blancher has a length, the food products have a density of at least 55 lb/ft^3, and in step c) there is at least one orifice through which water is discharged at a flow rate of at least 80 gpm per foot of blancher length and a pressure of at least 30 psi and there is at least one orifice through which air is discharged at a flow rate of at least 10 SCFM per foot of blancher length and a pressure of at least 80 psi.

33. The method of claim **32** wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

34. The method of claim **32** wherein at least eight thousand pounds of food product per hour is removed in step f).

35. The method of claim **1** wherein the blancher has a length, the food products have a density of no greater than 55 lb/ft^3, and in step c) there is at least one orifice through which air is discharged at a flow rate of at least 60 SCFM per foot of blancher length and a pressure of at least 2 psi.

36. The method of claim **35** wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

37. The method of claim **35** wherein at least four thousand five hundred pounds of food product per hour is removed in step f).

38. The method of claim **1** wherein the blancher has a length, the food products have a density of no greater than 55 lb/ft^3, and in step c) there is at least one orifice through which air is discharged at a flow rate of at least 10 SCFM per foot of blancher length and a pressure of at least 80 psi.

39. The method of claim **38** wherein there is at least eight inches of depth of food product in the food product-receiving chamber.

40. The method of claim **38** wherein at least four thousand five hundred pounds of food product per hour is removed in step f).

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